

Using Benchmarking Results to Understand Your Building's Performance



ENERGY STAR®
PortfolioManager®

Pre-Webinar Poll

1. **Did you attend Part 1, “A Beginner’s Guide to Using Portfolio Manager for Benchmarking Law Compliance”?**
 - A. Yes
 - B. No

2. **How do you plan to use EPA’s Portfolio Manager tool going forward?**
 - A. I’m only planning to use Portfolio Manager for benchmarking law compliance
 - B. I want to use Portfolio Manager to help develop/implement my organization’s energy management plan
 - C. I’m not sure yet

“Basics of Building Benchmarking for Ordinance Compliance” Webinar Series

- **Part 1** (January 26)

A Beginner’s Guide to Using Portfolio Manager for Benchmarking Law Compliance

- **Part 2** (February 24)

Using Benchmarking Results to Understand your Building’s Performance

- **Part 3** (March 30)

To Efficiency and Beyond! How to Benefit from Benchmarking Compliance with Strategies for Improving your Energy Performance

Learning Objectives

- Understanding your benchmarking results in Portfolio Manager
- Maintaining accurate, up to date data
- Using benchmarking data to improve performance

EPA vs. Jurisdiction Responsibilities

The EPA and ENERGY STAR can answer questions about...

- How to use Portfolio Manager
- Portfolio Manager metrics such as the ENERGY STAR score
- Portfolio Manager alerts and data quality checks
- How to connect with other Portfolio Manager users including utilities and 3rd party service providers



Your state or local jurisdiction can answer questions about...

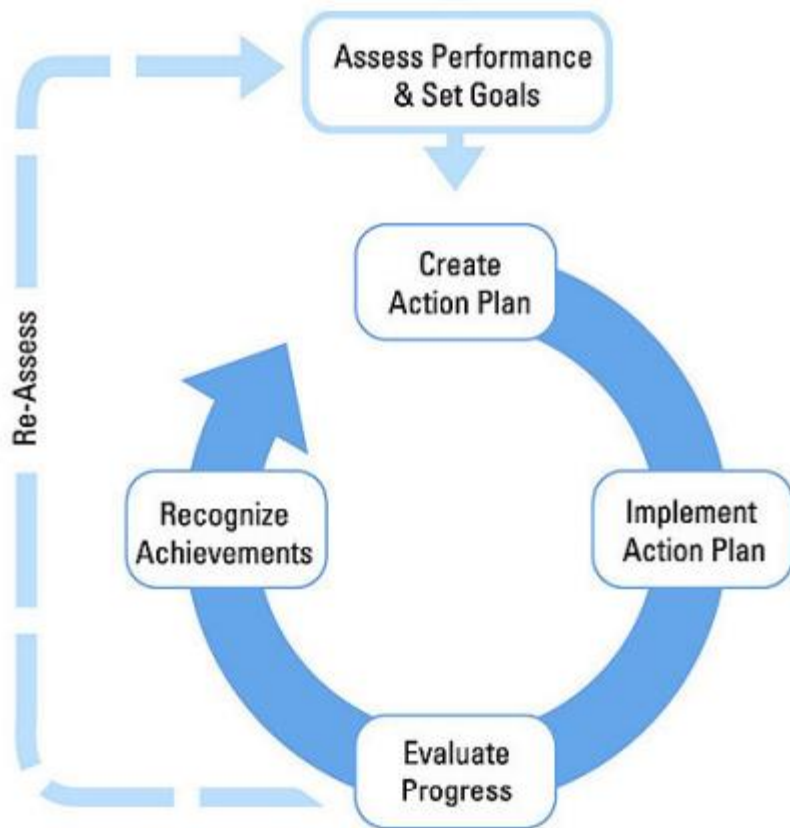
- Which buildings are subject to the benchmarking law
- Which data and time periods are required for reporting
- Due dates for submission and fines
- Confirmation that your report was received and/or complete



Learning Objectives

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Benchmarking is the Beginning, Not the End!

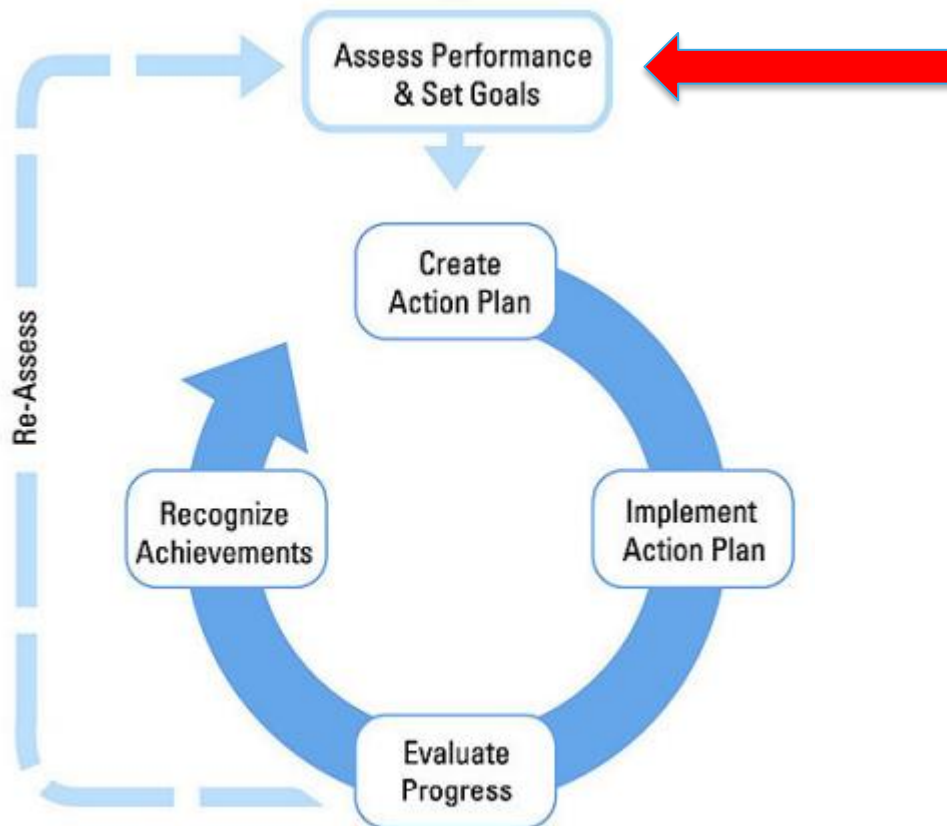


The ENERGY STAR
Guidelines for Energy
Management

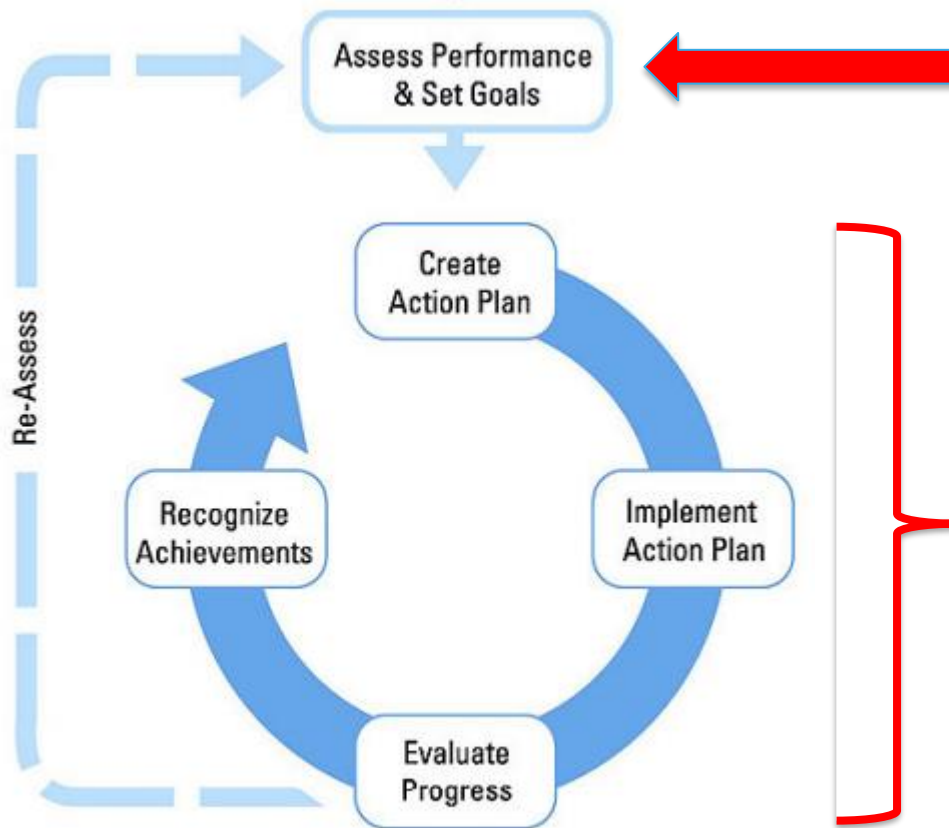
Benchmarking is the Beginning, Not the End!

Are you benchmarking for the first time because of a state or local ordinance?

You are probably here.



Benchmarking is the Beginning, Not the End!



Are you benchmarking for the first time because of a state or local ordinance?

You are probably here.

But this is where the energy and cost savings get realized!



ENERGY STAR® PortfolioManager®

Benefits of using the tool



Keep all information in one place



Track costs, investments and environmental benefits



Use benchmarking data to establish aggressive but realistic goals



Ability to tailor reports to meet varied needs



Share goals and savings with others



Hundreds of metrics, including:



Energy use

Source, site,
weather
normalized,
demand



Water use

Water use
intensity,
Water Score
(for Multifamily)



**Waste &
Materials**

Waste intensity,
diversion rate



**1-100
ENERGY STAR
score**



**GHG
emissions**

Indirect,
direct, total,
avoided

The 1–100 ENERGY STAR Score



<https://www.youtube.com/watch?v=--k1MS7FBEE>

Property Types That Can Earn The 1-100 ENERGY STAR Score in the U.S.

*Not eligible for ENERGY STAR Certification



Bank Branch



Barracks*



Courthouses



Data Centers



Distribution Centers



Financial Offices



Hospitals



Hotels



K-12 Schools



Office Buildings



Medical Offices*



Multifamily Housing



Residence Hall/Dormitory*



Retail Stores



Senior Care Communities



Supermarkets



Warehouses



Wastewater Treatment Plants*



Wholesale club/ Supercenters



Worship Facilities

The 1-100 ENERGY STAR Score...

Does...

- Identify how your property is performing compared to other similar properties nationwide
- Adjust for key operational characteristics that are relevant to each property type, and that may change over time
- Adjust for the impact of climate and weather
- Offer a way for building owners to earn recognition from EPA

Does Not...

- Tell you why your buildings are performing the way they are
- Tell you what you need to do to improve performance
- Indicate that your property will always perform at this level

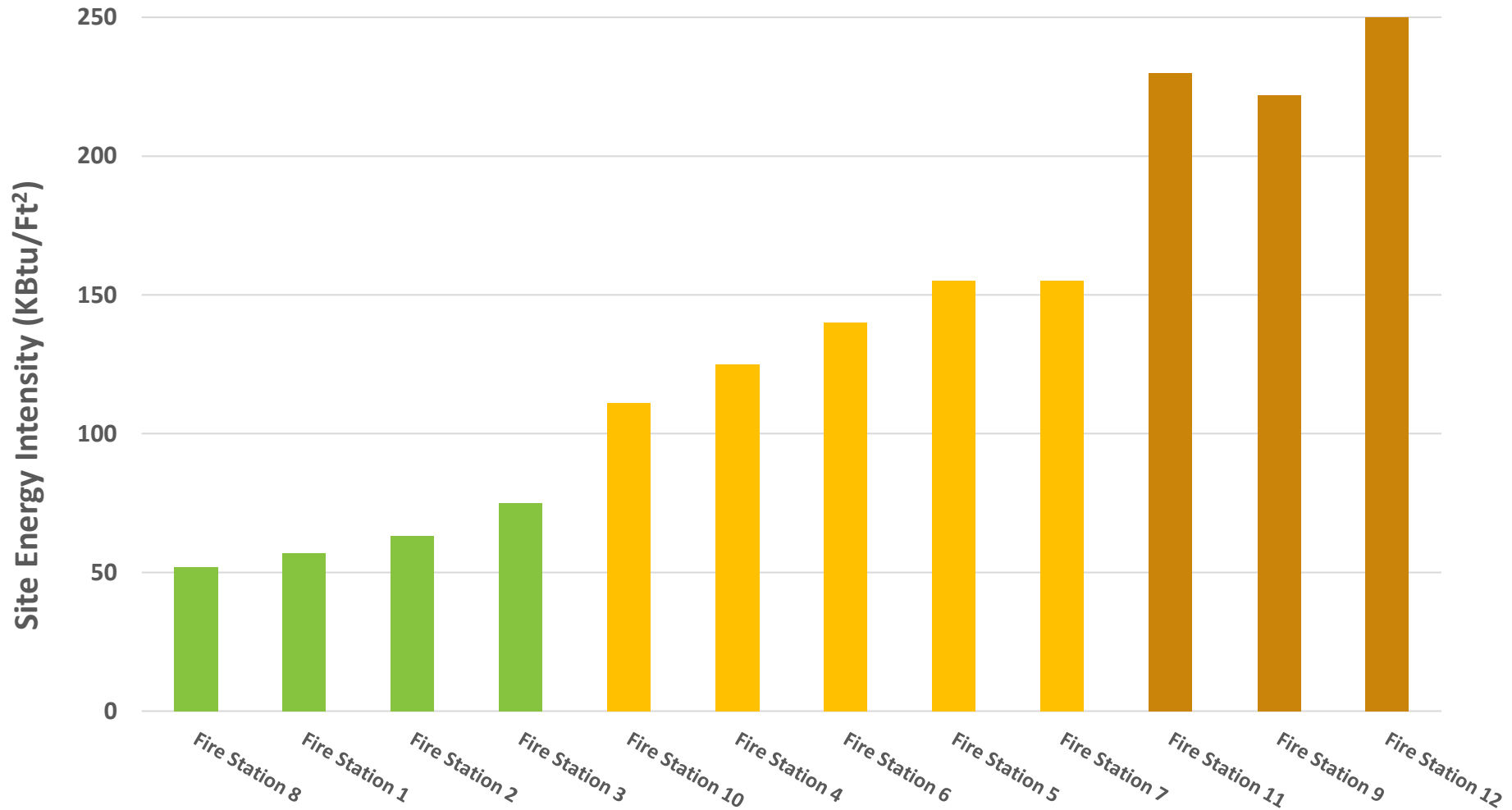
**What if my property is not eligible to receive the
1-100 ENERGY STAR score?**

Understanding Energy Use Intensity (EUI)



<https://www.youtube.com/watch?v=u3wbcxhHdHk>

Using EUI to Assess Relative Performance Within a Portfolio



Multiple “Flavors” of EUI Metrics Available

- EUI (kBtu/ft²/yr) vs. Total Energy Consumption
- Site EUI vs. Source EUI
- EUI vs. Weather Normalized EUI
- National Median Site and Source EUI



With or Without the 1-100 Score, Benchmarking Allows You To:

- Understand individual building performance, at this moment and over time
- Identify and address potential issues by looking at monthly trends
- Evaluate performance across a portfolio of properties, in order to allocate limited resources for energy improvement efforts
- Track the impact of any energy, water, and/or waste management strategies that you deploy – including O&M, retrofit, and behavioral efforts

Don't Forget Emissions!



- Portfolio Manager can help you to calculate the environmental impacts of the energy consumption required to operate your property
 - Direct (Scope 1) emissions (e.g., natural gas)
 - Indirect (Scope 2) emissions (e.g., electricity, district fuels)
 - Total emissions (location-based methodology)
 - Avoided emissions from the sale of onsite renewable energy back to the grid or the purchase of offsite green power products/RECs
- Increasingly important if your state/city is considering or actively pursuing building performance policies that focus specifically on greenhouse gas emissions.

Learning Objectives

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Data Updates and Corrections

- If you need to make edits to your property use details, you can either “Update with New Information” or “Correct Mistakes”
- “Update with New Information” tracks a value that is changing over time
 - Enter date as of which the new value took effect, so that the tool can account for this when calculating “time-weighted” metrics
- “Correct Mistakes” changes a value that was entered in error
 - No historical record of the old value will be kept or factored into your metrics

Edit Property – Update with New Information

Summary **Details** Energy Water Waste & Materials Goals Design

Property Uses and Use Details

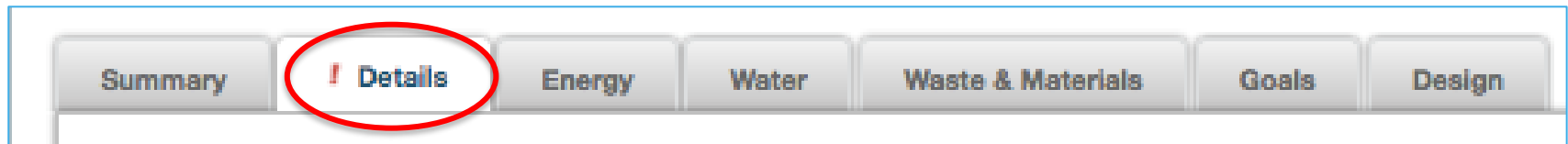
[View as Diagram](#)

Name	Primary Function	Gross Floor Area	Action
▶ Building Use	Office	100,000 ft²	I want to...
▶ Vacant Office Space	Office	0 ft²	I want to...
Property GFA (Buildings):		100,000 (used)	
Property GFA (Buildings and Parking):		100,000	

To add multiple uses and buildings to this property, you can use this [spreadsheet template](#) to upload your information.

- I want to...
- Update with New Information**
- View Update History
- Correct Mistakes
- Delete use

Edit Property – Correct Mistakes



Property Uses and Use Details

 [View as Diagram](#)

Add Another Type of Use

Add

Name	Primary Function	Gross Floor Area	Action
▶ Building Use	Office	98,329 ft²	I want to... ▼
▶ Vacant Office Space	Office	1,671 ft²	I want to... ▼
Property GFA (Buildings):		100,000 (used 1	I want to... Update with New Information View Update History Correct Mistakes Delete use
Property GFA (Buildings and Parking):		100,000	

Property-Level Alert: Gross Floor Area

The screenshot displays the 'Details' tab of the Energy Star Portfolio Manager interface. On the left, the 'Basic Information' section shows 'Construction Status: Test property that is one single building' and 'Property GFA - Self-Reported: 100,000 Sq. Ft.' (circled in red). Below this is 'Occupancy: 95%' and an 'Edit' button. On the right, the 'Property Uses and Use Details' section features a 'View as Diagram' link and an 'Add Another Type of Use' button. A table lists property uses:

Name	Property Use Type	Gross Floor Area	Action
▶ Building Use	Office	100,000 ft²	I want to...
▶ Vacant Office Use	Office	10,000 ft²	I want to...

Below the table, a red alert icon precedes the text: 'Property GFA (Buildings): 110,000 (used to calculate EUI)' (circled in red). A red arrow points from this alert to a detailed error message box at the bottom.

Incomplete Data- Please Review

Gross Floor Area Mismatch (Self-Reported vs. Portfolio Manager-Calculated)

Problem: The total [Gross Floor Area](#) (GFA) that you entered for your property does not match the total calculated by Portfolio Manager by adding the GFA for each Property Use.

- **Self-Reported Property GFA:** 140,000 sq ft
- **Portfolio Manager-Calculated Property GFA:** 150,000 sq ft


What to do:

- If the GFA for one of your Property Uses doesn't look right, it might be because it's [time-weighted](#).
- If the Portfolio Manager-Calculated GFA doesn't look right, it might be because you changed the GFA of one Property Use, but didn't change the GFA of another Property Use on the same day, in the same amount. [See this FAQ](#).
- [Correct your Self-Reported Property GFA](#) or correct your Property Uses by clicking on their names from the [Details](#) tab. [Learn more about these two types of GFA](#).
- If your property GFA increased because you added new space through an addition, then ignore this error. Once you have 12 months of data at the new GFA level, the time-weighted GFA will match your new, expanded GFA total, and the error will disappear.

Meter-Level Alert: Gaps/Overlaps


MyPortfolio | [Sharing](#) | [Reporting](#) | [Recognition](#)

ABC Office Building



123 Main Street, Durham, NC 27707 | [Map It](#)
Portfolio Manager Property ID: 8410188
Year Built: 2010
[Edit](#)

[Summary](#) | [Details](#) | **[! Energy](#)** | [Water](#)

 [Not currently eligible for ENERGY STAR Certification](#)

Incomplete Data- Please Review

! Meter(s) with gaps in meter entries.

Problem: There are gaps (missing days) between meter entries for the following meter(s):

- [Electric Grid Meter](#) (missing data for 02/01/2010 - 01/01/2021)

What to do:


- Click on the meter's name above to view the meter entries and locate the gaps, which will be highlighted in yellow.
- Consult your records and resolve the gaps as needed. For more assistance, please [refer to this FAQ](#).


[Close Explanation](#)

Meter Data Alerts



Manage Bills (Meter Entries) for [Supermarket A-1](#)



You may select one of your meters to get started. Or, if you are coming here from your meter list, a meter may already be selected.

 Electricity has an overlap where 09/01/2005 precedes 05/03/2006. Please remove the overlap by adjusting the dates of your energy bills. For help, see this [FAQ](#).

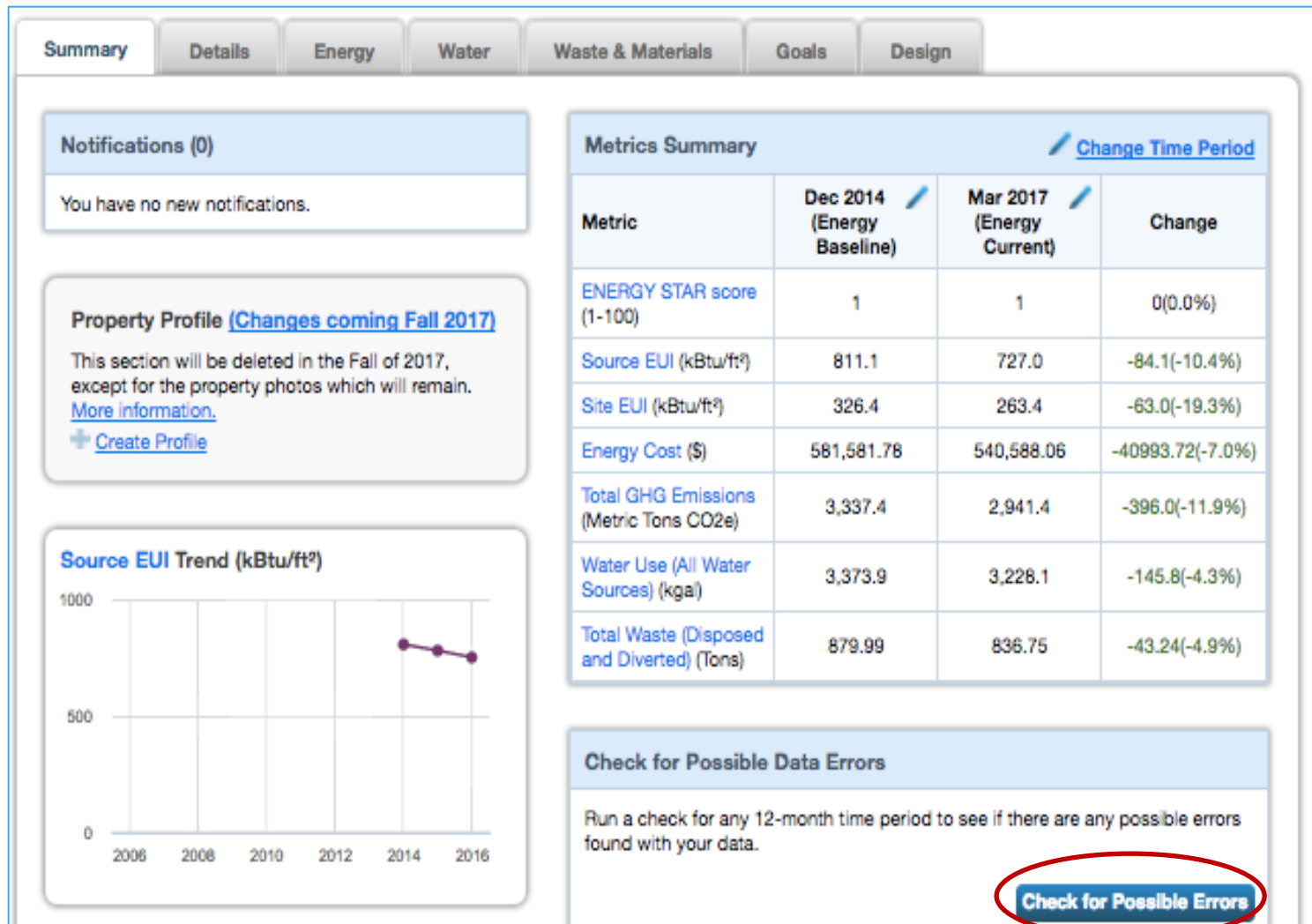
 Electricity has a gap of 35 days between the dates of 11/30/2005 and 01/05/2006. Please close the gap by adjusting the dates of your energy bills. For help, see this [FAQ](#).

Electricity 

Display Year(s):  

	Start Date	End Date	Usage kWh (thousand Watt-hours)	Cost (\$)	Estimation	Green Power	Last Updated
<input type="checkbox"/>	4/5/2005	5/3/2006	366,720		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los
 Electricity has an overlap where 09/01/2005 precedes 05/03/2006. Please remove the overlap by adjusting the dates of your energy bills. For help, see this FAQ .							
<input type="checkbox"/>	9/1/2005	9/30/2005	427,920		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los
<input type="checkbox"/>	10/1/2005	10/31/2005	369,640		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los
<input type="checkbox"/>	11/1/2005	11/30/2005	384,960		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los
 Electricity has a gap of 35 days between the dates of 11/30/2005 and 01/05/2006. Please close the gap by adjusting the dates of your energy bills. For help, see this FAQ .							
<input type="checkbox"/>	1/5/2006	2/3/2006	354,960		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los
<input type="checkbox"/>	2/4/2006	3/6/2006	357,360		<input type="checkbox"/>	<input type="checkbox"/>	6/4/2015 faccio/los

Data Quality Checker



Data Quality Checker

Data Quality Checker for [ABC Office Building](#)

The Data Quality Checker will help you find potential errors and unusual data within a given year. Select your year of interest, review your alerts, and follow the links to view or correct your data as needed.

Select Timeframe & Run Checker

We check data for a full year (12 months) of meter consumption and Property Use Details (called a [Metric Year](#)). Select a [Year Ending Date](#) and click "run checker" to see possible data issues.

Year Ending:

* Dec 31 ▼ 2020 ▼

[Re-Run Checker](#)



About Timeframes

The Data Quality Checker needs one full calendar year of [Property Use Details](#) and [meter](#) information for most checks. Otherwise, we will show you basic alerts to let you know what's missing.



About Alerts

❗ Indicates data is incomplete or missing. Most likely at least some metrics are not able to be calculated as a result. Issue should be resolved as soon as possible.

⚠ Indicates data is atypical for the type of property and its associated use. Data should be checked for errors to ensure metrics are correct for the property.

❗ There is not 12 full months of meter data.

Problem: The following meters do not have 12 full calendar months of meter entries for the year selected (01/01/2020 - 12/31/2020).

- [Natural Gas](#) (missing bills for 01/01/2020 - 01/01/2021)
- [Electric Grid Meter](#) (missing bills for 01/01/2020 - 01/01/2021)

What to do:

- If you think this is a mistake, click the links above to review the entries for each meter and make corrections if necessary.

⚠ Property has no waste or material meters.

⚠ Gross Floor Area Mismatch (Self-Reported vs. Portfolio Manager-Calculated)

⚠ Property has no water meters.

[Cancel](#)

Learning Objectives

- Understanding your benchmarking results in Portfolio Manager
- Maintaining accurate, up to date data
- Using benchmarking data to improve performance

Use Your Benchmarking Metrics To Inform Your Plan






- Property and portfolio level (as appropriate) priorities
 - If you own/manage more than one building, which should get attention first?
- Sequencing low- and no-cost O&M measures ahead of more capital-intensive retrofits
 - You don't want to start spending money on new equipment if you still haven't "right-sized" your building's energy requirements through more basic measures
- Looking across multiple time-horizons
 - Current budget cycle (O&M)
 - Next budget cycle (targeted retrofit projects)
 - Longer-term (3-5 years; more comprehensive efforts)
- Setting property or portfolio-wide energy and carbon reduction goals

Use Your Benchmarking Metrics To Inform Your Plan

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Using Portfolio Manager to Establish Goals and Targets

Manage Portfolio

-  [Transfer ownership](#) of a property that you manage to another Portfolio Manager user.
-  [Upload and/or update multiple properties](#) at once using an Excel spreadsheet if you are a pro. This can be done to create new properties, add use details, create meters and add meter consumption data.
-  [Download your entire portfolio to Excel or create a custom download.](#)
-  [Set a portfolio baseline and/or target](#) to help measure progress.
-  [Add sample properties](#) to your account. Up to five sample properties with pre-populated data will be added to your portfolio for testing purposes.

Property Goals Tab: View Specific Property Goals & Improvements

Goals tab at the Property level

MyPortfolio
Sharing
Reporting
Recognition

Company HQ

1200 New York Avenue NW, Washington, DC 20005 | [Map It](#)

Portfolio Manager Property ID: 6466285

Year Built: 1996

[Edit](#)

Not eligible to apply for ENERGY STAR Certification

[Change Metric](#)

ENERGY STAR Score (1-100)

Current Score: 63

Baseline Score: 63

Summary
Details
Energy
Water
Waste & Materials
Goals
Design

Energy Performance (kBtu/ft²)

Energy Use Intensity

200

0

Baseline (Jan 2017)

Current (Apr 2018)

Source EUI

Site EUI

Generate & Download Performance Documents for this Property

[Statement of Energy Performance \(SEP\)](#)

[ENERGY STAR Scorecard](#)

[Progress & Goals Report](#)

Metrics Comparison for Your Property & Your Target [Change Time Period](#)

Metric	Jan 31 2017 (Energy Baseline)	Apr 30 2018 (Energy Current)	Target*	Median Property*
ENERGY STAR score(1-100)	63	63	75	50



Baselines & Targets

	Baselines	Target
Energy	01/31/2017	75
Water	12/31/2008	Not Available
Waste/Materials	Not Available	Not Available

[Set Baselines or Target](#)

* To compute the metrics at the property's current energy use.

Property Goals Tab: View Specific Property Goals & Improvements

Metric	Jul 2019 (Energy Baseline) 	Oct 2019 (Energy Current) 	Target*	Median Property*
ENERGY STAR score (1-100)	36	42	75	50
Source EUI (kBtu/ft²)	74.8	76.9	61.6	73.3
Site EUI (kBtu/ft²)	37.2	37.9	30.3	36.1
Source Energy Use (kBtu)	16,771,552.6	17,252,642.0	13,819,063.7	16,443,158.7
Site Energy Use (kBtu)	8,352,979.8	8,498,233.0	6,806,935.0	8,099,500.4
Energy Cost (\$)	338,529.72	353,349.02	283,026.34	336,770.06
Total GHG Emissions (Metric Tons CO2e)	503.9	514.1	411.8	490.0

Analyze Progress and Performance on the Reporting Tab

Choose from
Pre-set
Chart &
Graph
Options

View and
Use Custom
Report
Templates

View and
Use
Standard
Reports

MyPortfolio Sharing **Reporting** Recognition

Charts & Graphs

Weather Normalized Source EUI
How much total primary fuel would be required by my properties, under average weather conditions?

ENERGY STAR Performance Documents

- [Statement of Energy Performance \(SEP\)](#)
- [Statement of Energy Design Intent \(SEDI\)](#)
- [Data Verification Checklist](#)
- [Progress & Goals Report](#)
- [ENERGY STAR Scorecard](#)
- [Water Scorecard](#)

My Custom Reports **ENERGY STAR Reports** [Create a New Template](#)

Name	Status	Action
Partner of the Year Report	Last Modified: 1/27/2020 1:42 PM	I want to...
ENERGY STAR Certification Status	Last Modified: 1/27/2020 10:10 AM	I want to...
Emissions Performance	Last Modified: 1/26/2020 12:01 PM	I want to...
Water Performance	Last Modified: 1/24/2020 11:36 AM	I want to...
Fuel Performance	Last Modified: 1/21/2020 7:49 AM	I want to...
Sustainable Buildings Checklist Report	Last Modified: 1/14/2020 10:33 AM	I want to...

View and
Download
Performance
Documents

Generate
Custom
Report
Templates

Using Metrics to Understand How Your Building is Doing

Using Metrics to Understand How Your Building is Doing

- Example 1
 - An Office was designed and built to be a 'green,' high-performance building, but a few years into operation, its EUI is still right around the national median for my property type.

Using Metrics to Understand How Your Building is Doing

- Example 1
 - An Office was designed and built to be a ‘green,’ high-performance building, but a few years into operation, its EUI is still right around the national median for my property type.
 - This is a common occurrence among ‘green’ buildings!
 - Benchmarking data can help identify when ‘green’ buildings are not performing as designed.
 - Even state-of-art building systems and design elements may not be able to deliver superior energy performance if building systems are not operating as intended.

Using Metrics to Understand How Your Building is Doing

- Example 2
 - “My property’s ENERGY STAR score is 35, even after paying careful attention to operations and maintenance (O&M).”

Using Metrics to Understand How Your Building is Doing

- Example 2
 - “My property’s ENERGY STAR score is 35, even after paying careful attention to operations and maintenance (O&M).”
 - Based on this benchmarking data, it appears that the building is reaching the limits of its energy performance benefits that can be reached through O&M.
 - This might indicate that the property could benefit from larger retrofit projects to “move the needle” on energy performance.
 - Your local utility may offer technical assistance to identify the best measures for your property, as well as incentives to help lower the cost of project implementation.

Using Metrics to Understand How Your Building is Doing

- Example 3
 - “My property is scoring above 75!”

Using Metrics to Understand How Your Building is Doing

- Example 3
 - “My property is scoring above 75!”
 - Awesome! But don’t rest on your laurels...
 - Make sure that you continue to benchmark in Portfolio Manager and continue to implement an O&M plan so that you don’t see your performance slip over time.
 - Find ways to celebrate and promote your success, including applying for ENERGY STAR certification.
 - If you have a portfolio of properties, consider how practices that benefited one property can be deployed across other properties that may not be performing as well.

Benchmarking Law Compliance Resources

- Contacts for state and local benchmarking ordinances:
 - <https://energystar-mesa.force.com/PortfolioManager/s/article/Contacts-for-state-local-compliance-ordinances-1600088543441>
- Utility data access map: <https://energystar.gov/utilitydata>
- List of services providers that perform Portfolio Manager benchmarking services:
 - <https://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/save-energy/expert-help/find-energy-star-service-a-0>
- Finding your Standard ID:
 - <https://energystar-mesa.force.com/PortfolioManager/s/article/Standard-IDs-in-Portfolio-Manager-1600088552120>
- How to respond to Data Requests in Portfolio Manager:
 - <https://www.energystar.gov/buildings/tools-and-resources/how-respond-data-requests-portfolio-manager>
- How to share properties in Portfolio Manager:
 - <https://www.energystar.gov/buildings/tools-and-resources/how-share-data-other-users-portfolio-manager>

Benchmarking Law Compliance FAQs



ABOUT FOR PARTNERS

SEARCH

Find Products

Save at Home

New Homes

Commercial Buildings

Indust

Search...

SEARCH

HOME

CONTACT US

HOME > PORTFOLIO MANAGER FAQs > FEDERAL, STATE & LOCAL REQUIREMENTS

STATE & LOCAL BENCHMARKING REQUIREMENTS

ARTICLES

25

ARTICLES

How do I find the receipt for the Data Request that I submitted?

24 Views • Jan 12, 2021 • Knowledge

FAQs are available at www.energystar.gov/buildingshelp



Recap

- Today, we covered:
 - Understanding your benchmarking results in Portfolio Manager
 - Maintaining accurate data
 - Using benchmarking data to improve performance

Remember:

Your score and other metrics may be higher than you expect, or lower than you'd like. However, the only "bad" score is the one that you are not working to improve.

“Basics of Building Benchmarking for Ordinance Compliance” Webinar Series

✓ **Part 2:** (February 24)

Using Benchmarking Results to Understand your Building's Performance

- **Register for Part 3:** <https://bit.ly/3skMIAv> (March 30)

To Efficiency and Beyond! How to Benefit from Benchmarking Compliance with Strategies for Improving your Energy Performance

- **Register for the second Part 1 session :** <https://bit.ly/2Nm8Xqb> (April 21)

A Beginner's Guide to Using Portfolio Manager for Benchmarking Law Compliance

Extra Help

- Visit www.energystar.gov/buildingshelp
 - Extensive list of FAQs
 - Online form to submit technical questions or comments
- Additional Portfolio Manager training resources available at: www.energystar.gov/buildings/training
 - Step-by-step documents (PDF)
 - Access to recorded trainings and short videos
 - Information on upcoming trainings
- Register for regular webinars at: <http://esbuildings.webex.com>
- Portfolio Manager Technical Reference Series:
http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager_model_tech_desc

Thank you for attending!

Questions?

Slides will be sent to all webinar registrants after today's session

If you have any questions on Portfolio Manager
or the ENERGY STAR program, contact us at:

www.energystar.gov/BuildingsHelp